

the seeds dispersed. But cones of many years old can be found on many trees, and though some have no seeds, others are full, and by cutting them across the seeds are found perfectly good. For commercial purposes when the new cones are not abundant enough, old cones are gathered for the seeds, and they grow just as well as the recently matured ones. I have known *Pinus pungens* six years cleaned to grow just as well as those taken from the cones, —and these cleaned seeds, too, made up from old closed cones, as well as from the fresher ones.

I have often been tempted to take up the pen, when scientific experiments have been recorded on the growth of seeds. Many of them are fallacious from assuming that seeds fail to grow to young plants for no other reason than that the seeds had lost their vital power. One may take a hundred of the freshest kind of Pine seeds, and another hundred of the same kind and sow in separate pots, and keep both under exactly the same conditions as far as he knows, and yet from the hidden causes I have referred to, have one hundred plants from one pot, and not fifty from the other. I feel quite sure that a serotinous Pine seed, if white and not yellowish when cut across, would grow just as well when twenty years old as any from recent cones.—T. M.

MICHIGAN LAKE SHORE PLANTS —The following is a partial list of plants growing on the beach and sand banks of Lake Michigan in the vicinity of South Haven, Mich. :

*Geranium Robertianum*, L., grows sparingly on shady bluffs. *Ptelea trifoliata*, L., grows quite thriftily in clean white sand. *Arabis hirsuta*, Scop., is found on banks with heavy soil, and *A. lyrata*, L. abundantly in pure sand. The lyrate-pinnatifid radical leaves of *A. lyrata* are generally entirely covered by the drifting sand, causing them soon to decay, thus making the plant difficult of analysis. The uppermost leaves are perfectly linear, and the whole plant often glaucous.

*Prunus Virginiana* L., *P. Pennsylvanica*, L., and *P. pumila*, L., are all found on sandy banks, the latter often ascending to a height of over four feet. *Potentilla Anserina*, L., grows on the level beach, its clumps of beautiful pinnate leaves, strongly resembling, at a short distance, a tuft of ferns. *Crataegus tomentosa*, L., var. *pyrifolia* occurs occasionally. *Lathyrus maritimus*, Bigelow, is plentiful in the sands all along the beach, making a fine display.

*Diervilla trifida*, Moench., occurs sparingly in the sand. *Cirsium Pitcheri*, Torr. and Gr., grows on sand bluffs. It is a singular plant, its very heavy heads resting on the ground.

*Pyrola chlorantha*, Swartz., *P. secunda*, L., and *Chimaphila umbellata*, Nutt., occur on shaded bluffs. *Arctostaphylos Uva-ursi*, Spreng., I found on exposed, sandy banks.

*Polygonum cilinode*, Mx., is abundant in drifting sand. *Euphorbia polygonifolia*, L., is found on the level beach, also *Corispermum hysopifolium*, L., but sparingly.

*Lithospermum hirtum*, Lehm., is abundant on sand bluffs. Its showy yellow flowers are very fragrant. It might be a valuable acquisition to our gardens. *Shepherdia Canadensis*, Nutt., is abundant. *Salix viminalis*, L., occurs abundantly on a springy, clay bank near the harbor. *S. discolor*, Muhl., and *S. rostrata*, Rich., grow to a good size in clean sand. *Populus balsamifera*, L., var. *caudicans* is native north of the harbor. This clump of low, stunted trees, is the remnant of a narrow belt about a mile in length which contained scattering specimens when the first settlements were made here thirty years ago.

*Juniperus communis*, L., and *J. Virginiana*, L., are common; and in the bluffs under evergreens, *Thuja occidentalis*, L., and *Taxus baccata* L., var. *Canadensis*, Gray.

*Juncus Balticus*, Willd., is abundant on the beach. *Calamagrostis longifolia*, Hook., and *Cenchrus tribuloides*, L., are uncommon. *Aspidium marginale*, Swartz., occurs on the bluffs. Specimens of most of the above are on hand for exchanges.—L. H. BAILEY, JR., South Haven, Mich.

FUNGI ON ANEMONE NEMOROSA.—I have found on living plants of *Anemone nemorosa*; *Synchytrium Anemones*, *Aecidium Anemones*, *Æ. Ranunculacearum*, *Puccinia Anemones*, *Peronospora pygmea*, and *Urocystes pompholigodes*. I have sometimes found three of these on the same leaf. Is there any other plant that has an equal number of parasitic fungi?—E. W. H., Decorah, Iowa.

LA PHYTOGRAPHIE, by Alph. DeCandolle, 8 vo., 48 pp.—This is a work we would like to see translated into English for the benefit of our own botanists. Coming as it does from the most eminent European authority, from one whose whole life has been devoted to the description of plants, it is likely to become the authority upon Phytography, or the art of describing plants considered from almost every point of view. At first sight the subject appears to have to do with the form of botanical works alone, but the art of describing is based on that of observing, comparing and classifying. Phytography with respect to facts is a sort of garment, which it is necessary to know how to modify to suit the dimensions of an individual increasing in stature. Two old works have exerted a powerful influence on botanical writings, namely, the *Philosophia botanica* of Linnæus, and the *Theorie elementaire de la botanique* of Augustine Pyramus DeCandolle. These works are separated from each other by more than sixty years, and now, again, after the lapse of more than sixty years, Alph. DeCandolle publishes this present work, in which are considered many questions that the progress of the science has suggested. The direction of the *Prodromus* and of the *Monographie Phanerogamarum* was peculiarly fitted the author for the work in hand, and he can speak upon this subject from a wider experience, probably, than any other botanist. The great prominence the author gives to works on descriptive botany, he says, is due to their neces-